

What is claimed is:

1. Test system for testing a plurality of heat pumps, comprising:

an array of testing stations, wherein each of said testing stations includes at least one
5 heating element for attachment to a first component of a heat pump and wherein each of said
testing stations includes at least one sensor for connecting to a heat pump;

a plurality of data acquisition lines each of said plurality of data acquisition lines
connected to a separate sensor for each testing station;

a plurality of control lines each of said plurality of control lines connected to a second
10 component of separate heat pumps; and

a control device which receives test data through said data acquisition lines and
transmits control data over said control lines.

2. The test system of claim 1 wherein said first component of said heat pumps is an
15 evaporator coil and said second component of said heat pumps is a compressor.

3. The test system of claim 2 wherein said sensors are temperature sensors which are
connected to said evaporator.

20 4. The test system of claim 3 further comprising a second plurality of control lines each
of said plurality of control lines connected to a valve of separate heat pumps.

5. The test system of claim 4 further comprising a second plurality of data acquisition

lines each of said plurality of data acquisition lines connected to a separate second temperature sensor for each testing station.

6. The test system of claim 5 wherein said control device is an automated testing
5 protocol running on a computer system.

7. The test system of claim 6 wherein said automated testing protocol contains comparative pass/fail criteria.

10 8. Test system for testing a plurality of heat pumps, comprising:
an array of testing stations, wherein each of said testing stations includes at least one heating means which can be attached to a first component of a heat pump for providing a heat load to said heat pump and wherein each of said testing stations includes at least one sensor means which can be couple to a heat pump to generate test data;
15 a plurality of data acquisition connection means each of said plurality of data acquisition connection means connected to a separate sensor means for each testing station;
a plurality of control connection means each of said plurality of control connection means connected to a second component of separate heat pumps; and
a control means which receives test data through said data acquisition connection
20 means and transmits control data over said control lines.

9. The test system of claim 8 wherein said first component of said heat pumps is an evaporator coil and said second component of said heat pumps is a compressor.

10. The test system of claim 9 further comprising a second plurality of control connection means each of said plurality of control connection means connected to a valve means of separate heat pumps.

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11. The test system of claim 4 further comprising a second plurality of data acquisition lines each of said plurality of data acquisition lines connected to a separate second temperature sensor for each testing station.

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12. The test system of claim 11 wherein said control means is an automated testing protocol running on a computer system.

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13. A method of testing a plurality of heat pumps, simultaneously comprising the steps of:
providing a first control signal to a first component of a plurality of heat pumps to
operate a function of said heat pumps;
providing a second control signal to a plurality of heating element, said heating
elements placing a heat load on said heat pumps;
receiving data from a plurality of sensors coupled to said heat pumps; and
comparing said received data to accepted performance parameters for said heat
pumps.

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14. The method of claim 13 wherein said first and second control signals are generated by an automated testing protocol running on a computer system.

15. The method of claim 14 wherein said first component of said heat pumps is a compressor.

5 16. The method of claim 15 further comprising the step of providing a third control signal to a plurality of valves of said heat pumps.

17. The method of claim 16 wherein said sensors are temperature sensors coupled to the evaporator of said heat pumps.

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18. The method of claim 17 further comprising the step of receiving data from a plurality of second temperature sensors separately coupled to said evaporators of said heat pumps.

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19. The method of claim 18 further comprising the step of providing a plurality of fourth control signals to a plurality of auxiliary heating elements, said plurality of auxiliary heating elements placing a heat load on said heat pumps.

20. The method of claim 13 further comprising the step of printing a report of the results of the comparing step.

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